

## Appendix A

### PRAMS Methodology

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One strength of the PRAMS surveillance system is the standardized data collection methodology. This standardized approach allows for comparisons among states and for optimal use of the data for single-state or multistate analysis. The standardized data collection methodology is prescribed in the CDC Model Surveillance Protocol.<sup>(1)</sup> Each state follows the protocol, but also has the opportunity to customize some portions of it to tailor the procedures to the needs of the state.

PRAMS combines two modes of data collection; a survey conducted by mailed questionnaire with multiple follow-up attempts, and a survey by telephone. The principles and practices of mail/telephone survey methodology used by CDC are based primarily on the research of Don Dillman.<sup>(2)</sup> A key aspect of his approach is to make numerous and varied contacts with sampled mothers. Here is the sequence of contacts for PRAMS surveillance:

**Preletter.** This letter introduces PRAMS to the mother and informs her that a questionnaire will soon arrive.

**Initial Mail Questionnaire Packet.** This packet is sent to all sampled mothers 3 to 7 days after the preletter. Its contents are described below.

**Tickler.** The tickler serves as a thank you and a reminder note. It is sent 7 to 10 days after the initial mail packet.

**Second Mail Questionnaire Packet.** This packet is sent to all sampled mothers who have not yet responded 7 to 14 days after the tickler has been sent.

**Third Mail Questionnaire Packet.** This third packet is sent to all remaining nonrespondents 7 to 14 days after the second questionnaire.

**Telephone Follow-up.** Telephone follow-up is initiated for all mail nonrespondents 7 to 14 days after mailing the last questionnaire.

The series of mailings commences 2 to 4 months after delivery of the newborn. The questionnaire contains items asking about the early postpartum period; thus, the mailings are timed to ensure that all women will be able to respond for this period. The data collection cycle from the mailing of the preletter to the close of telephone follow-up lasts approximately 60 to 95 days. Each month, a stratified sample is drawn from the current birth certificate file. For each of these monthly samples, or "batches," this sequence of contacts is attempted. To assist in tracking all aspects of data collection, a customized tracking system, PRAMTrac, was developed by the CDC and installed in each participating state. PRAMTrac is designed to assist with the scheduling of mailings and telephone calls, preparing letters, and tracking responses.

The mail packets contain several items. First is a multipurpose cover letter. This letter describes PRAMS and its purpose, explains how the mother was chosen

and why, elicits the mother's cooperation, describes the procedures for filling out and returning the questionnaire, explains any incentive or reward, and provides a telephone number for additional information. This letter is modified slightly for the second and third mailings, primarily by adding an additional appeal for response. Beginning in 2004, the multipurpose cover letter was divided into two documents; an introductory letter and an informed consent information sheet. Second, the questionnaire booklet is included. The questionnaire booklet has a similar appearance for each state. It is no more than 14 pages in length, has a colorful cover designed by each state, and is slightly smaller than an 8 1/2" by 11" sheet of paper. It contains an extra page at the end for comments from the mother. A self-addressed return envelope with postage is provided for the easy return of the questionnaire. Third, a question and answer brochure is added to provide additional information about PRAMS. It contains answers to the most frequently asked questions about the survey. It can be an important tool to encourage the mother to participate. Fourth, a 3-year calendar is provided to be used as a memory aid for answering the questions. Fifth, all states have adopted the use of some type of participation incentive (sent to all sampled mothers) or reward (sent to all respondents). Examples of participation incentives and rewards include: coupons for certified birth certificates, participation in a raffle for a cash award, postage stamps, bibs, cash (a dollar bill), and magnetic picture frames.

Telephone follow-up begins after the mailing of the 3<sup>rd</sup> questionnaire packet questionnaire. A variety of sources of telephone numbers are used to obtain a valid number for a mother, and these vary by state. Calls to a particular number are staggered over different times of the day and different days of the week. The calling period for a batch runs 2 to 3 weeks. Up to 15 call attempts are made to a number in order to reach a mother. Often, telephone interviewers arrange call-back interviews to accommodate the mother's schedule. By September 2006, all states use standardized web-based CATI (Computer Assisted Telephone Interviewing) software for telephone follow-up.

### **The PRAMS Questionnaire**

The original PRAMS questionnaire was developed in 1987. An extensive list of topics was identified and researched for the questionnaire. From this list, questions were developed and tested and ultimately placed on the questionnaire. Participating states used this questionnaire (Phase 1) from fall 1988 through 1989. After an evaluation of the Phase 1 questionnaire, CDC and the participating PRAMS states developed the Phase 2 questionnaire and put it in the field during 1990. Although the questionnaire maintained its original structure, selected questions were revised, some were deleted, and new questions were added. In 1994, CDC again collaborated with the participating PRAMS states to develop a Phase 3 questionnaire. This revision was more extensive than the revision of 1989. As with the development of the first and second questionnaires, a list of potential topics was extensively researched. Based on this research, questions were revised or dropped, and new questions were added. As before,

the questionnaire retained its original structure. In fall 1995 and early 1996, states began to use the Phase 3 questionnaire. States implemented the fourth revision of the questionnaire with January 2000 births. This revision followed was similar to the Phase 3 revision in terms of evaluation, revision and addition of new questions. The Phase 4 revision also introduced a new format to the questionnaire changing it from a single column, to a two-column layout with shading to help differentiate the questions from each other. In April 2004, states implemented the fifth phase of the questionnaire.

The questionnaire consists of two parts. First, there are core questions that appear on all states' surveys. Second, there are state-added questions that are tailored to each state's needs. There are two types of state-added questions. Beginning with the Phase 3 questionnaire and continued with the Phase 4 and Phase 5 questionnaire, CDC coordinated the development and testing of standard questions with significant input from state, CDC, and other researchers. These questions reflect additional topics that are of interest to the states and are made available to the states to add to their questionnaires as they choose. There are currently 185 standard questions from which states can choose to include on their survey. States may also develop their own questions if the available standard questions do not address a topic of interest in the state.

Topics addressed in the PRAMS core questionnaire include barriers to and content of prenatal care, obstetric history, maternal use of alcohol and cigarettes, physical abuse, contraception, economic status, maternal stress, and early infant development and health status. Some standard questions provide additional information on topics already addressed in the core questionnaire, including content of prenatal care, contraception, and physical abuse. Other standard questions address different topics, including social support and services, mental health, and injury prevention.

Because PRAMS employs a mixed-mode methodology, two types of questionnaires are available. The self-administered questionnaire is used with the mailing packets, and an interviewer-administered questionnaire is used with the telephone phase. The interviewer-administered questionnaire contains the same questions that are on the self-administered questionnaire; however, some questions have been formatted differently to facilitate the different mode of administration. The PRAMS questionnaire is available in English and in Spanish; those states with a large Hispanic population may choose to use the Spanish questionnaire.

An explanation of the PRAMS weighting process follows in Appendix B.

1. Centers for Disease Control and Prevention. PRAMS model surveillance protocol, 2005 CATI version. Unpublished.
2. Dillman DA. Mail and internet surveys: the tailored design method. New York: John Wiley and Sons, 2000.